

NEW BRUNSWICK NOUVEAU-BRUNSWICK

LAND
and Related
Agricultural Information
for
New Brunswick



Department of Agriculture
Ministère de l'agriculture

LAND
and Related
Agricultural Information
for
New Brunswick

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Forward

In 1981 there were 4000 farms in New Brunswick, with a capital investment of over \$511 million. Total farm cash receipts were \$200 million with potatoes, dairy and cattle accounting for 60% of this total. In comparison to other primary industries, agriculture ranks second behind forestry in terms of its' contribution to gross domestic product.¹

This booklet has been prepared to provide a general overview of the soils, climate and agriculture in New Brunswick. For those seeking more specific information, the various marketing boards, commodity groups or the appropriate Regional or Branch Director may be contacted.

1. Statistics Canada, 1981 Census.

SOILS

The soils found in the province are the result of the soil forming processes at work during the last glaciation or in the 10,000 years since then. In a total area of about 18 million acres we have approximately 300 different soil types. These occur as glacial tills, alluvial, lacustrine and those formed in situ. The bedrock from which the soils are derived includes granites, slates, shales, siltstones, limestones and sandstones.

New Brunswick lies in the Appalachian Region of Canada. The Appalachians consist of a complex belt of folded mountains, which in turn consist largely of flat topped rolling uplands and highlands.

The highlands and uplands form a semicircle about the vast lowland area or maritime plain. The Maritime Plain is for the most part below 120 m (400 ft.) in elevation, while the surrounding uplands range between 150 and 820 m (500-2700 ft.). Mount Carleton is the highest peak at an elevation of 820 m (2690 ft.).

All of the Appalachian Region was glaciated during the Pleistocene period and much of the pre-glacial surface has been scoured and subsequently covered with a layer of till deposits of different thickness. Granite rock fragments originating from the Pre-Cambrian shield are found in the Saint John River Valley and Chaleur Uplands.

The disintegration of the ice sheets and subsequent changes in sea level have had a significant effect on the coastal regions. The most extensive areas of marine submergence occur on the east coast of the province where thin deposits of marine sediments are

scattered along the coastline. However, many of these deposits have been eroded away or incorporated into soil profiles.

Very stony, sandy till deposits occurring frequently with rock outcrops are found in the N.B. Highlands, with the exception of the southwest where deep gravelly tills have smoothed the rough topography into a more rolling upland terrain. In contrast to this, the Chaleur Uplands are considered to have a more rugged deeply dissected topography with very shallow, stony to very gravelly till deposits.

On the Maritime Plain region of the province sandy tills are only found within the Miramichi water shed. Elsewhere the till is a deep reddish brown loamy material of local origin. Alluvial plains and terraces are found along the valleys of most of the main rivers. Thin layers of marine sediments cover extensive areas within the plain, especially along the coast. These alluvial and marine deposits range from fine sands and silts to coarse sands and gravel.²

The types and general distribution of bedrock forming the primary source materials from which the soils of New Brunswick have been formed, are indicated in Fig. 3.

2. Fahmy, Sherif H., and Rees, Herbert W., Land Resource Research Institute: Agriculture Canada, 1986, Soils for New Brunswick A First Approximation.

SOIL CAPABILITY CLASSES FOR AGRICULTURE

In the soil capability classification for agriculture, the soils are grouped into seven classes according to their potentials and limitations for agricultural use. The first three classes are considered capable of sustained production of common cultivated crops; the fourth class is marginal for sustained arable agriculture, the fifth is capable of use only for permanent pasture or hay, and the sixth is capable of use only for wild pasture. The seventh class is for soils and land types (including rock outcrops and small unmappable bodies of water) considered incapable of use for arable culture or permanent pasture.

There are 3.25 million acres of C.L.I. classes 2, 3 and 4 in New Brunswick which are considered suitable for agriculture.

A more detailed description is given below:

CLASS 1 - There are no class 1 soils in N.B. due to climatic and fertility factors.

CLASS 2 - SOILS IN THIS CLASS HAVE MODERATE LIMITATIONS THAT RESTRICT THE RANGE OF CROPS OR REQUIRE MODERATE CONSERVATION PRACTICES.

The soils are deep and hold moisture well. The limitations are moderate and the soils can be managed and cropped with little difficulty. Under good management they are moderately high to high in productivity for a fairly wide range of crops.

CLASS 3 - SOILS IN THIS CLASS HAVE MODERATELY SEVERE LIMITATIONS THAT RESTRICT THE RANGE OF CROPS OR REQUIRE SPECIAL CONSERVATION PRACTICES.

The limitations are more severe than for Class 2 soils. They affect one or more of the following practices: timing and ease of tillage; planting and harvesting; choice of crops; and methods of conservation. Under good management they are fair to moderately high in productivity for a fair range of crops.

CLASS 4 - SOILS IN THIS CLASS HAVE SEVERE LIMITATIONS THAT RESTRICT THE RANGE OF CROPS OR REQUIRE SPECIAL CONSERVATION PRACTICES, OR BOTH.

The limitations seriously affect one or more of the following practices: timing and ease of tillage; planting and harvesting; choice of crops; and methods of conservation. The soils are low to fair in productivity for a fair range of crops but may have high productivity for a specially adapted crop.

CLASS 5 - SOILS IN THIS CLASS HAVE VERY SEVERE LIMITATIONS THAT RESTRICT THEIR CAPABILITY TO PRODUCING PERENNIAL FORAGE CROPS, AND IMPROVEMENT PRACTICES ARE FEASIBLE.

The limitations are so severe that the soils are not capable of use for sustained production of annual field crops. The soils are capable of producing native or tame species of perennial forage plants, and may be improved by use of farm machinery. The improvement practices may include clearing of bush, cultivation, seeding, fertilizing, or water control.

CLASS 6 - SOILS IN THIS CLASS ARE CAPABLE ONLY OF PRODUCING PERENNIAL FORAGE CROPS' AND IMPROVEMENT PRACTICES ARE NOT FEASIBLE.

The soils provide some sustained grazing for farm animals, but the limitations are so severe that improvement by use of farm machinery is impractical. The terrain may be unsuitable for use of farm machinery, or the soils may not respond to improvement, or the grazing season may be very short.

CLASS 7 - SOILS IN THIS CLASS HAVE NO CAPABILITY FOR ARABLE CULTURE OR PERMANENT PASTURE.

This class also includes rockland, other non-soil areas, and bodies of water too small to show on the maps.

0 - ORGANIC SOILS (Not placed in capability classes) ³

THE CLIMATE FOR AGRICULTURE IN NEW BRUNSWICK

CLIMATE AND AGRICULTURE

The climate of any farm will determine, in large part, the success or failure of crops grown. Selection of crop, cultivar or hybrid, time of planting and rate of development are all dependent on the weather. Although many important daily decisions are made based upon the two to five day weather outlook, there are some major longer-term decisions projected over five years, ten years and much longer that require the best available information as to the type of growing conditions a farmer will expect to have on his land.

New Brunswick experiences a wide range of growing conditions. Coastal areas have a long but cool growing season, while sheltered inland valleys have a shorter but much warmer growing season. Areas which have warm summers can still experience very cold winters. The temperature at Fredericton, New Brunswick, ranges from an extreme maximum of 39°C to an extreme minimum of -39°C. Such variation requires crop selection and management practices suited to the conditions of the location.

The diversity of climate within this small region is reflected in the variety of crops produced here. High quality potato production for seed and tablestock returns many dollars to the New Brunswick economy. Apples, strawberries and blueberries provide a high quality product for both the fresh and processing markets. Cereal grain production for livestock feed and for the milling market is increasing, as is the emphasis on producing high quality forage.

The growing season in the Atlantic region is characterized by a cool, wet spring, a warm summer with ample rainfall, but with occasional dry periods, and a cool wet autumn. The cool spring with high rainfall combined with heavy soils, common in the region, creates field trafficability problems which delay spring field work and seeding. Delayed seeding means the crop may be losing the benefit of early warm spring days. Improving soil drainage and using small tractors with wide, high flotation tires for early seeding, provide ways of using the entire growing season available. A late-planted crop risks not reaching maturity or its maximum yield potential before fall frosts threaten. Late seeding also delays harvest to a time when high rainfall can once again cause field trafficability problems.

The growing season for frost sensitive crops is determined by the last spring frost and first fall frost. The frost-free period varies a great deal depending upon latitude, elevation, topography, and proximity to large water bodies. Although coastal locations have long frost-free periods they do not have the high temperatures required for the rapid growth and maturity of warm season crops. The advent and use of plastic mulches and tunnels have altered the microclimate of the crop to provide sufficient heat for crops such as pepper, melon and eggplant to reach maturity.

There are generally insufficient corn heat units within the frost-free period to produce high quality grain corn, except for the earliest hybrids grown in a few select areas. However, corn is regularly grown for silage in the select areas with sufficient corn heat units. The breeding of earlier maturing hybrids is making

grain corn a more promising prospect as a source of livestock feed in Atlantic Canada. There has also been some success with early maturing soybeans in high heat unit areas.

An increasing land base is being devoted to growing high quality livestock feed. This means selecting new crops or new hybrids to produce both quantity and quality feedstuffs. Consideration of heat units, frost-free period, and workday probabilities, will help improve production and save dollars.

Winter temperatures in the region can dip low enough to cause damage, but a good snow cover can prevent cold temperatures from being a problem. Frequent freeze-thaw cycles do occur and reduce the dependability of snow cover particularly in coastal areas. Usually the transitions from cold to warm and back again are gradual enough to not be a problem, however winter injury to tree fruits, perennial forages, and overwintering cereal grains is a constant hazard to be minimized by careful site selection, variety selection and management.

CLIMATE OF NEW BRUNSWICK

The influence of the prevailing westerlies is responsible for bringing air from the interior of the continent to New Brunswick. However, air masses ranging from the Arctic to the Gulf of Mexico may end up over New Brunswick. Many of the migratory low pressure systems moving across North America pass over the Atlantic Provinces because of the prevailing westerlies. As a result, this region has storms more frequently throughout the year than any other part of

the country. The frequent passing of low pressure areas, with their associated bad weather, and the maritime location provide New Brunswick with ample precipitation.

Despite the maritime location of the Atlantic Provinces the climate is a modified continental climate which is characterized by a wide range of temperature. A maritime climate is characterized by a reduced temperature range because the ocean supplies heat in winter and provides cooling in summer. Areas near the coast have milder winters and cooler summers, with a longer frost-free period than inland locations. The advantage of a prolonged season is offset by the cooler temperatures and fewer heat units available for plant growth.

The wind direction and the relationship of land to water are major factors in determining climatic differences within the region. The southern coast of New Brunswick has the highest annual precipitation in the Province due to south-easterly storm winds blowing moisture laden air onshore. In contrast the Northumberland coast of New Brunswick is in a "rain shadow". This means that south-easterly storm winds have already dropped some precipitation by the time they reach these areas.

Coastal waters differ in the influence they have on the climate of adjoining land. The warm waters of the Gulf of St. Lawrence and especially the Northumberland Strait, do not provide as much cooling in summer as do the cool waters of the Atlantic. In winter the Gulf waters are frozen and do not provide the warming the Atlantic Ocean does. For this reason the Gulf waters are less effective in moderating the climate of eastern New Brunswick. The moderating effect of the Atlantic is seen in southern New Brunswick.

The Bay of Fundy provides strong moderation of air temperature over southern New Brunswick, in both summer and winter. The reason for this is the tidal mixing of these waters. When water is heated it forms layers of different temperature with the warmest on top. When it is cooled it also stratifies but with the coldest on top. If the water is well mixed it does not form layers. Well mixed waters are colder in summer and warmer in winter than other coastal waters, making them more effective in reducing summer air temperatures and warming winter air temperatures. ⁴

4. Read, George, February 1985, The Climate for Agriculture in New Brunswick. AGDEX No. 085.

THE NEW BRUNSWICK DEPARTMENT OF AGRICULTURE

DEPARTMENTAL ORGANIZATION

The New Brunswick Department of Agriculture's head office is in Fredericton, with regional and district offices around the province. The head office staff consists of administrative personnel including the directors of the various branches plus a supporting staff of specialists and technicians whose duties are more provincial than regional. They are as follows:

- Assistant Deputy Ministers - Jack McKay and Gilbert Ouellette
- Administrative Services - Roger Hunter, Director

Information Section - Mike Routledge, Manager

- Animal Industry Branch - Frank Johnson, Director

Veterinary Section - Dr. M.F. Maloney

- Planning and Development Division - Peter Schousboe, Ex. Director
- Plant Industry - Edward Pratt, Director

Land Resources - Dr. Ibrahim Ghanem
Horticulture - Brian Dykeman
Field Crops - Edward Pratt
Plant Health - Sandy Perley

- Agricultural Resource Development Branch - Dr. Chesley Smith

Plant Propagation Centre - Shirlyn Coleman
Agricultural Engineering Section - Wm. Durant
Bon Accord Seed Potato Farm - Melvin Barclay
4-H - Sharon Nussey
Farm Management -
Agricultural Training - Amrik Jaswal

- Agricultural Finance Branch - J. Carl Snyder, Sec. Manager
- Market Organization and Inspection - Wayne Buffett, Director
- Farm Products Marketing Commission - H. Raymond Scovil

Crop Insurance Commission - Paul Smith
Grain Commission - Paul Smith

- New Brunswick Central Artificial Breeding Cooperative Ltd. - Glenn Charters

The Regional Offices have a Regional Director plus a support staff of specialists and technicians, depending upon the type of agriculture in the region. The district Offices, staffed mainly by extension staff, vary in number depending on the geographical size of the region and the intensity of agriculture. Veterinary services are located at most regional and district offices.

REGION - 1 NORTHEAST

Region 1 is located in the northern part of the province with the regional office in Bathurst and district offices in Dalhousie and Tracadie. Agriculture throughout the region consists of animal or crop enterprises; or a combination of both. There is some concentration of hog operations in the Tracadie area and blueberries in the Acadian peninsula area.

The western portion of the region is in the Chaleur Highlands. The soils are mostly glacial till soils and are formed mainly from slate and shale bedrock. There are, however, alluvial soils along the coast and major rivers. Inland, the topography is hilly and steeply dissected by rivers and streams, while along the coast it is gently undulating to undulating. The climate is a major factor in determining the range of crops that can be grown in inland areas. Along the coast the climate is less severe.

The central portion of the region is in the New Brunswick Highlands.

Along the coast are mainly marine alluvial soils while inland the soils are glacial tills. The climate is similar to the western portion as is the topography.

The eastern portion of the region is in the New Brunswick Lowlands. Most of the soils are glacial till soils formed on gray sandstone. Marine alluvial soils are found along the coast and there are considerable areas of organic or peat soils. Topography ranges from nearly level to undulating, becoming more severe as one moves inland. There are some differences between the coastal and inland climates but they are not as severe as in the western or central areas.

Bathurst - 1425 King Avenue, N.B. Agriculture, Bathurst, N.B.
E2A-1S7

Regional Director	Roland Bernard	548-4501
District Agriculturist	Pierre Cyr	548-4501
Regional Agricultural Engineer	Kevin J. McKendy	548-4501
Field Crops Specialist	Roger Theriault	548-4501
Fruit and Vegetable Specialist	Gaetan Chiasson	548-4501
District Veterinarian	Dr. T.W. Larder	548-3351

Dalhousie - P.O. Box 1148, N.B. Agriculture, Dalhousie, N.B.
E0K-1B0

District Agriculturist	Isaac Breau	684-4253
District Veterinarian	Dr. Jean Marc Clavette	684-4339

Tracadie - P.O. Box 170, N.B. Agriculture, Tracadie, N.B.
E0C-2B0

District Agriculturist	Guy Losier	395-3379
Swine Program Head	Armand Lavoie	395-3379
District Veterinarian	Dr. Lise Chiasson	395-4559

Table 1

REGION 1 - NORTHEAST

C.L.I. CLASSES 5

Classes	2	3	4	5	6	7	0	Total
Cleared -A	441	61 756	65 938	13 768	1 080	8 429	906	152 318
-ha	179	25 011	26 705	5 576	437	3 414	367	61 689
Forested-A	43 137	230 300	677 545	567 544	1 769	633 620	25 091	2 179 006
-ha	17 470	93 272	274 406	229 855	716	256 616	10 162	882 497
Total cleared classes 2-4:	128 138 acres, 51 895 hectares							2 606 730 A
Total forested classes 2-4:	950 082 acres, 385 148 hectares							1 055 726 ha

TOTAL AREA OF REGION: 2 606 730 A
1 055 726 ha

ANIMALS 6

Poultry: Total number including broilers, roasters, hens, laying hens, breeding stock and turkeys=95 781
 Sheep: Number of ewes and rams = 520; total number of lambs = 517
 Hogs: Number of boars = 47; sows = 881; 20kg = 2 039; 20-60kg = 874; 60kg = 620; Total=4 461
 Cattle: Number of bulls = 129; dairy = 1 750; beef = 743; dairy heifers = 492; beef heifers = 212; slaughter calves = 96; steers = 153; calves = 1 260

CROPS 6

Horticulture crops ha: asparagus beans beets broccoli cabbage carrots cauliflower cucumber
 Total: 70.5 0.8 0.8 0.4 - 6 0.8 - 0.8
 green peas lettuce onions rutabaga sweetcorn tomatoes other crops**
 - 0.4 0.4 26.8 17 - 5
 nursery prod. greenhouse strawberry tobacco
 - 3.324 8 -
 Field crops ha: spring wheat winter wheat oats barley mixed grain corn grain fall rye buckwheat
 Total: 7 628 18 2 608 172 19 16 10
 corn silage alfalfa tame hay oats(fodder) other fodder crops potatoes pasture
 27 539 3 376 358 114 543 1 826

5. See Appendix

6. See Appendix

REGION - 2 NORTHWEST

Region 2 is located in the Northwestern portion of the province with the regional office in Grand Falls and district offices in Edmundston and St-Quentin. In the Grand Falls, St-Leonard, and St-Quentin areas agriculture consists of the production of potatoes, grain and processing crops such as broccoli, peas and beans. There are some cattle operations in this area as well. The Grand Falls to Woodstock area as a whole is considered the potato belt of N.B. In the St-Leonard, Edmundston and Baker Lake portion of the region there are mainly mixed farming operations, except in the vicinity of St-Francois where there is a concentration of hog and poultry operations.

Region 2 is completely within the Chaleur Uplands physiographic region of the province. Soils are mainly glacial tills with some alluvial soils along the major rivers. Lacustrine deposits are found intermittently throughout the region. Most of the glacial till soils are the compact lodgement till type. The topography of the region is hilly to mountainous. In the Grand Falls, St-Quentin areas there are plateaus with more undulating topography. The climate becomes more severe as one goes west and north. In the upper Green River watershed area the climate definitely limits the range of crops that can be grown.

Grand Falls - P.O. Box 5001, Grand Falls, N.B.
EOJ-1M0

Regional Director	Lionel Arsenault	473-5515
Regional Agricultural Engineer		473-5515

Agricultural Engineer Soil Conservation	Jean-Louis Daigle	473-5515
Field Crops Specialist	Jerome Dambois	473-5515
Farm Management Counsellor	473-5515	
Potato Production Specialist	Ghislain Pelletier	473-5515
Livestock Specialist	Bertrand Cyr	473-5515
District Veterinarian	Dr. Rene Masse	473-5515

St-Quentin - P.O. Box 428 N.B. Agriculture, St-Quentin, N.B.
E0K-1J0

District Agriculturist	Patrick Ouellet	235-2683
District Veterinarian	Dr. Yves Vaillancourt	235-2683

Edmundston - 121 Church St., N.B. Agriculture, Edmundston, N.B.
E3V-1J9

District Agriculturist	Hubert Cyr	739-9545
Horticulture Specialist	Jacques Berube	739-9545
Swine Specialist	Mario Maillet	739-9545
Poultry Specialist		739-9545

St-Basile - P.O. Box 397 N.B. Agriculture, Edmundston, N.B.
E3V-3L1

District Veterinarian	Dr. Claude Fournier	735-8863
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Table 2

REGION 2 - NORTHWEST

C.L.I. CLASSES 5

Classes	2	3	4	5	6	7	0	Total
Cleared -A	39 744	44 403	42 438	18 971	348	5 048	1 097	152 049
-ha	16 096	17 983	17 187	7 683	141	2 044	444	61 578
Forested-A	129 639	217 626	469 298	504 526	3	433 504	26 210	1 780 806
-ha	52 504	88 139	190 066	204 333	1	175 569	10 615	721 227
TOTAL AREA OF REGION: 1 968 449 A								
Total cleared classes 2-4:	126 585 acres; 51 266 hectares							
Total forested classes 2-4:	816 563 acres; 330 709 hectares							

ANIMALS 6

Poultry: Total number including broilers, roasters, hens, laying hens, breeding stock and turkeys=741 956
 Sheep: Number of ewes and rams = 405; lambs = 290; Total = 695
 Hogs: Number of boars = 160; sows = 3 114; 20kg = 8 117; 20-60kg = 10 417; 60kg = 6 075; Total=27 883
 Cattle: Number of bulls = 364; dairy = 2 619; beef = 1 078; dairy heifers = 893; beef heifers = 274; slaughter calves = 302; steers = 563; calves = 2 290; Total = 8 383

CROPS 6

Horticulture crops ha:	asparagus	beans	beets	broccoli	cabbage	carrots	cauliflower	cucumber
Total: 686.2	-	0.4	0.4	240	4	0.4	81	0.4
	green peas	lettuce	onions	rutabaga	sweet corn	tomatoes	other crops**	
	329	0.4	0.8	6.2	4	-	1	
	nursery prod.	greenhouse	strawberry	tobacco				
	-	2.216	16	-				
Field crops ha:	spring wheat	winter wheat	oats	barley	mixed grain	corn grain	fall rye	buckwheat
Total: 21 955	1 096	4	3306	1 277	260	-	-	243
	corn silage	alfalfa	tame hay	oats(fodder)	other fodder crops	potatoes	pasture	
	42	531	5 512	387	215	6 087	2 995	

5. See Appendix

6. See Appendix

REGION - 3 WESTERN

Region 3 is located in the western part of the province with the regional office at Wicklow which has also been designated as the Provincial Potato Centre. District offices are located in Perth-Andover and Woodstock.

Agriculture in the region is based mainly on potato and grain production as well as processing crops such as peas, beans and broccoli. There are a number of animal-potato operations throughout the area.

Region 3, except for two small areas; one in the eastern part of Victoria county and the other in western York county, is in the Chaleur Highlands physiographic region of the province. The soils are predominately glacial tills, both lodgement and ablational with some alluvial soils along the major rivers. The topography is hilly in the southern portion of the region and mountainous in the northern portion. The climate is more severe towards the northern portion of the region.

Florenceville - R.R. 2 N.B. Agriculture, Florenceville, N.B.
EOJ-1K0

Director	Peter Jones	392-6007
Farm Management Counsellor	Carol Brennan	392-6007
Head, Soil & Water Section	Clair Gartley	392-6007
Regional Agricultural Engineer	Walter Allison	392-6007
Field Crop Specialist	Peter Scott	392-6007
Potato Production Specialist(Seed)	Guy Bernard	392-6007
Entomologist	Dr. Richard Parry	392-6007

Soil Management Specialist	Robert Hinds	392-6007
Potato Storage Management Specialist	John Walsh	392-6007
Industrial Development Officer Seed Potatoes	David Thornton	392-6007
Dairy Advisor		453-2272
Dairy Herd Analysis Service Supervisor	Brian Smith	392-6007
District Veterinarian	Dr. P.W. Wybenga	392-5560

Perth-Andover - P.O. Box 68, N.B. Agriculture, Perth-Andover,
N.B. EOJ-1V0

District Agriculturist	Melvin Barclay	273-2269
District Veterinarian	Dr. J.P. Marcil	273-2269

Woodstock - P.O. Box 5001, N.B. Agriculture, Woodstock, N.B.
EOJ-2B0

District Agriculturist	Jack Burnham	392-6007
District Veterinarian	Dr. Conrad Anderson	328-3147
District Veterinarian	Dr. Kevin Budd	328-3147

Table 3

REGION 3 - WESTERN

C.L.I. CLASSES 5

Classes	2	3	4	5	6	7	0	Total
Cleared -A	57 897	81 678	66 424	27 185	445	4 020	546	238 195
-ha	23 448	33 079	26 902	11 010	180	1 628	221	96 468
Forested -A	67 067	225 224	450 556	527 770	3 735	591 197	33 166	1 831 648
-ha	27 162	91 216	182 475	213 747	1 513	239 435	13 432	768 980
Total cleared classes 2-4:	205 999 acres;	83 429 hectares						2 173 553 A
Total forested classes 2-4:	742 847 acres;	300 853 hectares						880 288 ha

TOTAL AREA OF REGION:

ANIMALS 6

Poultry: Total number including broilers, roasters, hens, laying hens, breeding stock and turkeys = 38 767
 Sheep: Number of ewes and rams = 1 467; lambs = 1 278; Total = 2 745
 Hogs: Number of boars = 136; sows = 1 467; 20kg = 3 787; 20-60kg = 2 601; 60kg = 2 111; Total = 10 102
 Cattle: Number of bulls = 598; dairy = 4 066; beef = 5 054; dairy heifers = 1 474; beef heifers = 1 474; slaughter calves = 1 081; steers = 2 444; calves = 7 774; Total = 23 965

CROPS 6

Horticulture crops ha: asparagus beans beets broccoli cabbage carrots cauliflower cucumber
 Total: 1 696.2
 green peas lettuce onions rutabaga sweetcorn tomatoes other crops**
 2.186 - 0.4 61.9 36 1.6 12
 nursery prod. greenhouse strawberry tobacco
 3 2.186 71 -
 Field crops ha: spring wheat winter wheat oats barley mixed grain corn grain fall rye buckwheat
 Total: 51 656
 1 908 53 7 408 1 489 1 066 122 93 438
 tame hay oats(fodder) other fodder crops potatoes pasture
 12 662 446 237 14 554 9 384

5. See Appendix

6. See Appendix

REGION - 4 CENTRAL

Region 4 is located in the south western portion of the province with the regional office in Fredericton. Agriculture in the region consists mainly of animal and horticultural operations. Apple and vegetable production is concentrated in the Mactaquac - Gagetown area and blueberry production is concentrated in the St. Stephen area.

Part of Region 4 is in the N.B. Highlands, and the other part is in the N.B. Lowlands. The soils in the region are glacial tills with fairly large areas of alluvial soils along the major rivers. There is a great variation within the till soils depending mainly on the bedrock from which they were derived. Topography varies from level in the river valleys to hilly in the remainder of the region. Climate varies throughout the region depending on the distance from large water bodies.

Fredericton - N.B. Agriculture, P.O. Box 6000, Fredericton N.B.
E3B-5H1

Regional Director	Nancy Cook	453-2272
District Agriculturist	Frank Cotter	453-2272
Regional Agricultural Engineer	Benoit Ouelette	453-2272
Dairy Extension Officer		453-2272
District Veterinarian	Dr. Albert Olmstead	453-2210
District Veterinarian	Dr. Alain Belanger	453-2210
District Veterinarian	Dr. Gordon Stinso	453-2210

St. Stephen - N.B. Agriculture, P.O. Box 5001, St. Stephen, N.B.
E3L-2X4

District Veterinarian	Dr. Robert Lord	466-3073
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Table 4

REGION 4 - CENTRAL

C.L.I. CLASSES 5

Classes	2	3	4	5	6	7	0	Total
Cleared -A	12 157	63 425	78 090	32 995	535	20 073	3 405	210 680
-ha	4 920	25 666	31 601	13 352	216	8 123	1 378	85 256
Forested-A	5 466	427 002	944 191	873 801	1 972	1 291 263	40 171	3 583 806
-ha	2 212	172 795	382 086	353 601	798	522 511	16 256	1 450 259
Total cleared classes 2-4:	153 672 acres;	62 186 hectares						3 794 486 A
Total forested classes 2-4:	1 376 659 acres;	557 093 hectares						1 535 515 ha

TOTAL AREA OF REGION:

ANIMALS 6

Poultry: *Total number including broilers, roasters, hens, laying hens, breeding stock and turkeys = 540 237
 Sheep: Number of ewes and rams = 981; lambs = 865; Total = 1 846
 Hogs: Number of boars = 59; sows = 1 023; 20kg = 3 077; 20-60kg = 1 855; 60kg = 1 428; Total = 7 403
 Cattle: Number of bulls = 384; dairy = 4 051; beef = 3 130; dairy heifers = 2 011; beef heifers = 1 002; slaughter calves = 373; steers = 748; calves = 4 706; Total = 16 405

CROPS 6

Horticulture crops ha:	asparagus	beans	beets	broccoli	cabbage	carrots	cauliflower	cucumber
Total: 404.3	-	6.8	6.5	4.7	14.7	60.7	9.3	12.7
	green peas	lettuce	onions	rutabaga	sweetcorn	tomatoes	other crops**	
	7.3	4.8	2.6	24.4	80.3	12.2	41.1	
	nursery prod.	greenhouse	strawberry	tobacco				
	3.3	15.488	97.4	-				
Field crops ha:	spring wheat	winter wheat	oats	barley	mixed grain	corn grain	fall rye	buckwheat
Total: 19 815	26	5	819	47	52	51	-	61
	corn silage	alfalfa	tame hay	oats(fodder)	other fodder crops	potatoes	pasture	
	326	33	10 842	140	285	136	6 992	

5. See Appendix

6. See Appendix

REGION - 5 SOUTHERN

Region 5 is located in the southern portion of the province with the regional office in Sussex. This region together with the adjacent portions of Region 6, is known as the dairy belt with Sussex being considered the dairy capital of the province.

Cattle farming is the most important agricultural enterprise in the region although there are some commercial horticultural, hog and poultry operations. The southern portion of the region is in the N.B. Highlands. Soils are glacial tills with alluvial soils adjacent to major rivers. Most of the till soils have compact parent material. Along the Fundy coast the topography is hilly while the remainder is rolling to hilly.

A small portion of the region is in the New Brunswick Lowlands ie. Caanan River area. Till soils derived from sandstone are common in this area, topography is undulating and in general the area is not as productive as the southern portion of the region. Except for local frost pockets the climate is suitable for a wide range of crops.

Sussex - P.O. Box 5001 N.B. Agriculture, Sussex, N.B. E0E-1P0

Regional Director	Joseph Herod	433-3073
District Agriculturist	E.A. Eagles	433-3073
Regional Engineer	Laurence Folkins	433-3073
Field Crop Specialist	Walter Brown	433-3073
Poultry Specialist	Jacques Rutanga	433-3073

Veterinary Office

District Veterinarian	L. Donavan	433-2801
District Veterinarian	I. Leask	433-2801
District Veterinarian	B. Hicks	433-2801
District Veterinarian	S. Justason	433-2801

Table 5

REGION 5 - SOUTHERN

C.L.I. CLASSES 5

Classes	2	3	4	5	6	7	0	Total
Cleared -A	11 158	41 424	78 099	47 410	1 113	22 203	603	202 010
-ha	4 515	16 763	31 604	19 186	450	8 985	244	81 742
Forested-A	5 799	90 490	277 239	309 300	392	315 796	2 696	1 001 712
-ha	2 347	36 619	112 190	125 164	159	127 793	1 091	405 363
Total cleared classes 2-4:	130 681 acres;			52 882 hectares				1 203 722
Total forested classes 2-4:	373 528 acres;			151 156 hectares				487 110
TOTAL AREA OF REGION:								

ANIMALS 6

Poultry: *Total number including broilers, roasters, hens, laying hens, breeding stock, and turkeys = 479 078
 Sheep: Number of ewes and rams = 1 322; lambs = 1 060; Total = 2 382
 Hogs: Number of boars = 136; sows = 1 602; 20kg = 4 437; 20-60kg = 3 951; 60kg = 3 817; Total = 13 986
 Cattle: Number of bulls = 461; dairy = 8 235; beef = 2 905; dairy heifers = 3 814; beef heifers = 848; slaughter calves = 441; steers = 923; calves = 5 766; Total = 23 409

CROPS 6

Horticulture crops ha:	asparagus	beans	beets	broccoli	cabbage	carrots	cauliflower	cucumber	
Total: 230.1	0.4	2.5	6.8	0.5	37.8	4.7	4.1	4.5	
	green peas	lettuce	onions	rutabaga	sweetcorn	tomatoes	other crops**		
	2.2	0.6	1.4	13.3	37.5	12.6	29.6		
	nursery prod.	greenhouse	strawberry	tobacco					
	17.2	26.506	27.9	-					
Field crops ha:	spring wheat	winter wheat	oats	barley	mixed grain	corn grain	fall rye	buckwheat	
Total: 23 320	63	10	91	151	83	57	2	13	
	corn silage	alfalfa	tame hay	oats(fodder)	other fodder crops	potatoes	pasture		
	346	1 105	12 310	279	201	40	7 749		

5. See Appendix

6. See Appendix

REGION - 6 SOUTHEAST

Region 6 is located in the south eastern portion of the province. The regional office is in Moncton with district offices in Richibucto and Sackville; the latter being concerned mainly with the management of marshland soils.

Cattle farming is the predominant form of agriculture with dairy cattle being very common in the areas adjacent to Region 5 and beef cattle probably more common in the Tormentine peninsula and Kent County areas.. Horticultural crops are common in the Cap Pele-Shediac area although there are horticultural crops throughout the region. There are some commercial tobacco farms along the Northumberland Strait. The Rogersville area is the major brussel sprout producing area of the province.

The south eastern portion of the region is in the N.B. Highlands. This portion has mainly glacial till soils and the topography is hilly. The remainder of the area is in the N.B. Lowlands. The soils are glacial tills with some marine alluvial soils adjacent to the coast and some alluvial soils along the major rivers. The areas of true alluvial soils are rather small and scattered. There are considerable areas of sphagnum peat soils in the region but only the St. Charles Bog has been developed for vegetable production. Topography in the south eastern portion of the area is hilly while the remainder of the area has undulating topography. The climate varies locally but in general is suitable for a wide range of crops.

Moncton - P.O. Box 5001, N.B. Agriculture, Moncton N.B.
ELC 8R3

Regional Director	Aurele Gaudet	858-2552
District Agriculturist	Dwight Balzer	858-2552
District Agriculturist	Clara LeBlanc	858-2552
Farm Management Counsellor	Barry Russell	858-2552
Regional Agricultural Engineer	Arnold Banks	858-2552
Agricultural Engineer	Laurie Collette	858-2552
Field Crops Specialist	Walter Brown	433-3073(Sussex)

858-2552(Moncton)

Dairy Specialist	Allan Saunders R.R. 2 Petitcodiac N.B. ELC 8J6	858-2552
District Veterinarian	Dr. Andre Saindon	858-2555
District Veterinarian	Dr. George Irving	858-2555
District Veterinarian	Dr. Charles Bertheleme	858-2555
District Veterinarian	Dr. Jean-Paul Perreault	858-2555

Richibucto - P.O. Box 5001, N.B. Agriculture, Richibucto N.B.
EOA 2M0

District Agriculturist	Charles Goguen	523-9796
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Sackville - N.B. Agriculture, Middle Sackville, N.B. EOE 2E0

Marshland Development	Laurie Collette	536-0972
Agricultural Engineer		536-0972

Table 6

REGION 6 - SOUTHEAST

C.L.I. CLASSES 5

Classes	2	3	4	5	6	7	0	Total
Cleared -A	551	93 317	102 652	23 860	438	9 440	1 244	231 502
-ha	223	37 763	41 540	9 656	177	3 820	503	93 682
Forested-A	237	45 466	112 552	21 482	86	46 184	3 891	229 898
-ha	96	18 399	45 546	8 693	35	18 689	1 575	93 033
Total cleared classes 2-4:	196 520 acres; 79 526 hectares							461 400 A
Total forested classes 2-4:	158 255 acres; 64 041 hectares							186 715 ha

TOTAL AREA OF REGION:

ANIMALS 6

Poultry: Total number including broilers, roasters, hens, laying hens, breeding stock, and turkeys = 286 051
 Sheep: Number of ewes and rams = 2 207; lambs = 2 019; Total = 4 226
 Hogs: Number of boars = 171; sows = 2 678; 20kg = 7 982; 20-60kg = 6 491; 60kg = 5 180; Total = 22 502
 Cattle: Number of bulls = 651; dairy = 6 291; beef = 5 994; dairy heifers = 2 764; beef heifers = 1 655; slaughter calves = 1 714; steers = 3 583; calves = 8 328; Total = 30 994

CROPS 6

Horticulture crops ha: asparagus 0.4 beans 108 beets 4 broccoli 1.6 cabbage 40 cauliflower 31 cucumber 6
 Total: 632.8
 green peas 6 lettuce 10 onions 1.6 rutabaga 22.2 sweetcorn 46 tomatoes 6 other crops** 86
 nursery prod. 4 greenhouse 10 987 strawberry 35 tobacco 193
 Field crops ha: spring wheat 296 winter wheat 13 oats 1661 mixed grain 530 corn grain 40 fall rye 28 buckwheat 307
 Total: 36 068
 corn silage 434 alfalfa 1 172 tame hay 17 405 oats(fodder) 529 other fodder crops 332 potatoes 360 pasture 12 203

5. See Appendix

6. See Appendix

REGION - 7 EASTERN

Region 7 is located in the Miramichi area with the regional office located in Chatham. Agriculture in the area is mixed and confined to the coastal areas or to those areas adjacent to the major rivers. The north western portion of the region is relatively uninhabited. This portion is in the N.B. Highlands. Soils are mainly glacial tills with scattered occurrences of alluvial soils. The topography is hilly to mountaineous. The climate in this portion would have a great influence on the range of crops that can be grown.

The remainder of the region is in the N.B. Lowlands. Soils range from glacial tills to marine alluvials with scattered deposits of alluvial soils along the main rivers. The topograpny is undulating to hilly in the Upper South West Miramichi area. The climate could limit the range of crops in the latter area but is usually not a problem in the rest of this portion.

Chatham - 337 Water Street, N.B. Agriculture, Chatham, N.B.
ElN-1B2

Regional Director	Vernon Taylor	773-7091
District Veterinarian	Dr. Guy Sorel	773-5865

Table 7

REGION 7 - EASTERN

C.L.I. CLASSES 5

Classes	2	3	4	5	6	7	0	Total
Cleared -A	150	20 928	31 185	7 532	86	3 775	378	64 034
-ha	61	8 476	12 630	3 050	35	1 529	153	34 471
Forested-A	263	301 825	714 774	532 008	227	971 292	41 068	2 561 457
-ha	107	122 239	289 483	215 463	92	393 373	16 633	1 037 390
Total cleared classes 2-4:			52 263 acres;	21 167 hectares				2 688 853 acres
Total forested classes 2-4:		1 016 862 acres;	411 829 hectares					108 899 hectares

TOTAL AREA OF REGION:

ANIMALS 6

Poultry: Total number including broilers, roasters, hens, laying hens, breeding stock and turkeys = 59 290
 Sheep: Number of ewes and rams = 82; lambs = 77; Total = 159
 Hogs: Number of boars = 16; sows = 279; 20kg = 856; 20-60kg = 1 327; 60kg = 809; Total = 3 287
 Cattle: Number of bulls = 90; dairy = 729; beef = 408; dairy heifers = 268; beef heifers = 136; slaughter calves = 50; steers = 71; calves = 642; Total = 2 394

CROPS 6

Horticulture crops ha: asparagus beans beets broccoli cabbage carrots cauliflower cucumber
 Total: 216.6 1.6 28 0.8 0.4 0.4 0.8 0.4 0.4 1

green peas lettuce onions rutabaga sweet corn tomatoes other crops**
 0.4 - - 0.4 0.8 7 1.6 166

nursery prod. greenhouse strawberry tobacco
 - - 7 -

Field crops ha: spring wheat winter wheat oats barley mixed grain corn grain fall rye buckwheat
 Total: 2 432 10 - - 92 7 3 15 2 5

corn silage alfalfa tame hay oats(fodder) other fodder crops potatoes pasture
 2 221 1 442 78 4 49 502

5. See Appendix

6. See Appendix

APPENDIX I

Table 8

PROVINCIAL TOTALS

C.L.I CLASSES		2	3	4	5	6	7	0	Total
Cleared	-A	122 098	406 931	464 826	171 721	4 045	72 988	8 179	1 250 788
	-ha	49 442	164 741	188 169	69 513	1 636	29 543	3 310	514 886
Forested	-A	251 608	1 537 933	3 646 155	2 462 630	8 184	4 282 796	172 293	13 168 333
	-ha	101 898	622 679	1 476 252	1 350 856	3 314	1 733 986	69 764	5 358 749
Total		525 046	2 732 284	5 775 402	4 054 720	17 179	6 119 313	253 546	20 292 756
ANIMALS									
POULTRY									
SHEEP									
	ewes and rams		2 241 161				3.2	onions	7.6
	lambs		6 984				578.5	rutabaga	155.6
	total		6 106				19.7	sweet corn	227.8
			13 090				264.2	tomatoes	34
							107.9	other crops**	340.7
	boars		725				90	nursery prod.	27.5
	sows		11 044				126.2	greenhouse	60.71
	20kg		30 295				26.2	strawberry	262.3
	20-60kg		27 516				1 395.9	tobacco	193
	60kg		20 040				16.2	total	3 937.2
	total		89 620						
HOGS									
CATTLE									
	bulls		2 677				3 417	corn silage	1 586
	dairy		27 741				87	alfalfa	4 988
	beef		19 312				14 805	tame hay	63 549
	dairy heifers		11 716				3 901	oats(fodder)	2 217
	beef heifers		5 601				2 013	other fodder crops	1 388
	slaughter calves		4 057				301	potatoes	21 769
	steers		8 485				125	pasture	41 651
	calves		30 796				1 077	total	162 874
	total		110 335						

Table 9

MARKETING BOARDS AND COMMODITY GROUPS

N.B. Apple Marketing Board, R.R. 6, Fredericton, N.B. E3B 4X7
(506) 454-9636 Contact: Roger A. King

N.B. Beekeepers Association, c/o Mr. Ceciel Laird, 50 Caledonia Road
Moncton, N.B. E1C 1B6 (506) 372-5981

N.B. Blueberry Growers' Association, c/o Monique Knockwood,
Dorchester, N.B. E0A 1M0 (506) 379-2248

N.B. Cattle Producers Association, R.R. 6, Fredericton, N.B. E3B 4X7
(506) 452-8100 Contact Mario Maillet

N.B. Chicken Marketing Board, R.R. 6, Fredericton, N.B. E3B 4X7
(506) 452-8100 Contact: Roger A. King

N.B. Cream Marketing Board, P.O. Box 490, Sussex, N.B. E0E 1P0
(506) 433-1773 Contact: Ella Walker

N.B. Dairy Goat Association, c/o Ann Power, R.R. 2, Hatfield Point,
N.B. E0G 2A0 (506) 425-2425

N.B. Egg Marketing Board, 161 Westmorland Street, Fredericton, N.B.
E3B 3L6 Telephone: (506) 455-7605 Contact: Richard Gorham

N.B. Fur Farmers Association, c/o Linda Steeves, P.O. Box 88,
Salisbury, N.B. E0A 3E0

N.B. Grain Commission, c/o Paul Smith, N.B. Dept. of Agriculture,
P.O. Box 6000, Fredericton, N.B. E3B 5H1 (506) 453-2185

N.B. Greenhouse Products Marketing Board, R.R. 6, Fredericton, N.B.
E3B 4X7 (506) 452-8100 Contact Roger A. King

Landscape N.B., c/o Charles McNair, Spruce Hill Nursery, Bristol,
N.B. E0J 1G0 (506) 392-6696

N.B. Maple Producers Co-op Ltd., c/o Ken Reid, R.R. 1, Bath, N.B.
E0J 1E0 (506) 278-5479

N.B. Milk Marketing Board, P.O. Box 490, Sussex, N.B. E0E 1P0
(506) 433-1775 Contact: William A. Sherwood

N.B. Pork Producers Association, P.O. Box 750, Moncton, N.B. E1C 8N5
(506) 858-6324 Contact: Watson Cudmore

N.B. Potato Agency, P.O. Box 238, Florenceville, N.B. E0J 1K0
(506) 392-6022 Contact: Willem Schrage

Table 9 con'd

Domestic Rabbits Unlimited Association, c/o Carrol Cameron, R.R. 4, Stanley, N.B. E0H 1T0 (506) 367-2703

N.B. Sheep Breeders Co-op Ltd., c/o Brian Trenholm, Animal Industry Branch, N.B. Department of Agriculture, P.O. Box 6000, Fredericton, N.B. E3B 5H1 (506) 453-2457

N.B. Strawberry Growers Association, c/o Milton D'Aoust, Youngs Cove Road, N.B. E0E 1S0 (506) 488-2575

N.B. Tobacco Growers Association, c/o Charles Goguen, N.B. Dept. of Agriculture, P.O. Box 5001 Richibucto, N.B. E0A 2M0 (506) 523-9796

N.B. Turkey Marketing Board, R.R. 6, Fredericton, N.B. E3B 4X7 (506) 452-8100 Contact: Roger A. King

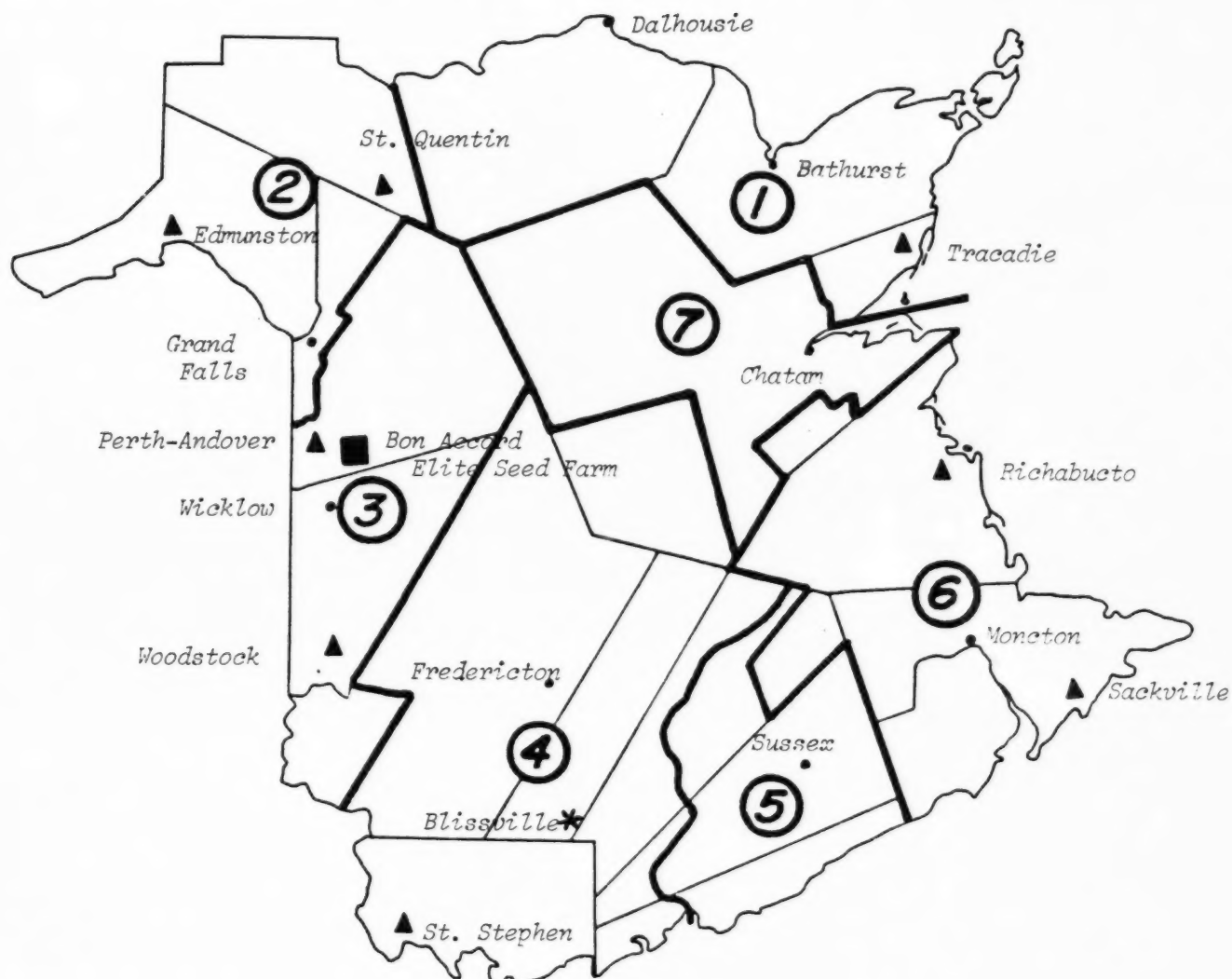
N.B. Vegetable Growers Association, c/o David Coburn, 279 Keswick Ridge Road, Keswick Ridge, N.B. E0H 1N0 (506) 363-3005

New Brunswick
Department of Agriculture
and Rural Development

Ministère de l'Agriculture
et de l'Aménagement Rural du
Nouveau-Brunswick

REGIONAL SERVICES

SERVICES REGIONAUX



REGIONAL OFFICES

Tracadie
Richabucto
Sackville
St. Stephen
Woodstock
Perth-Andover
Edmundston
St. Quentin

Bon Accord Elite Seed Farm
Blissville Horticulture Centre

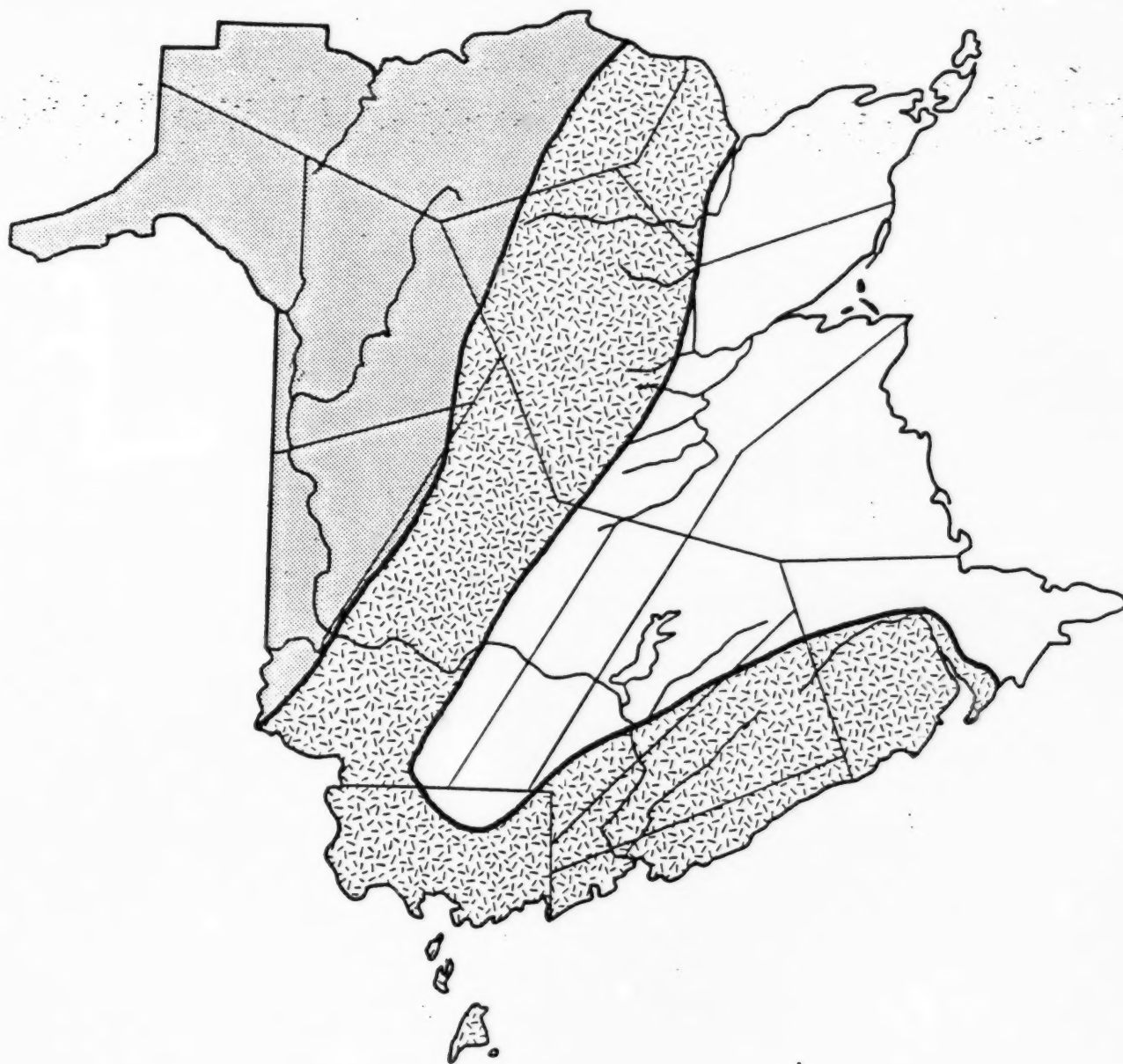
Regions

Northeast ①
Northwest ②
Western ③
Central ④
Southern ⑤
Southeast ⑥
Eastern ⑦

Regions

Nord-Est
Nord-Ouest
l'Ouest
Central
Sud
Sud-Est
l'Est

Figure 1



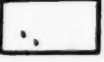
-  New Brunswick Chaleur Uplands
-  New Brunswick Highlands, Mountains
-  New Brunswick Low Lands (Maritime Plains)

Figure 2. Physiographic Regions of New Brunswick (Bostock 1970)

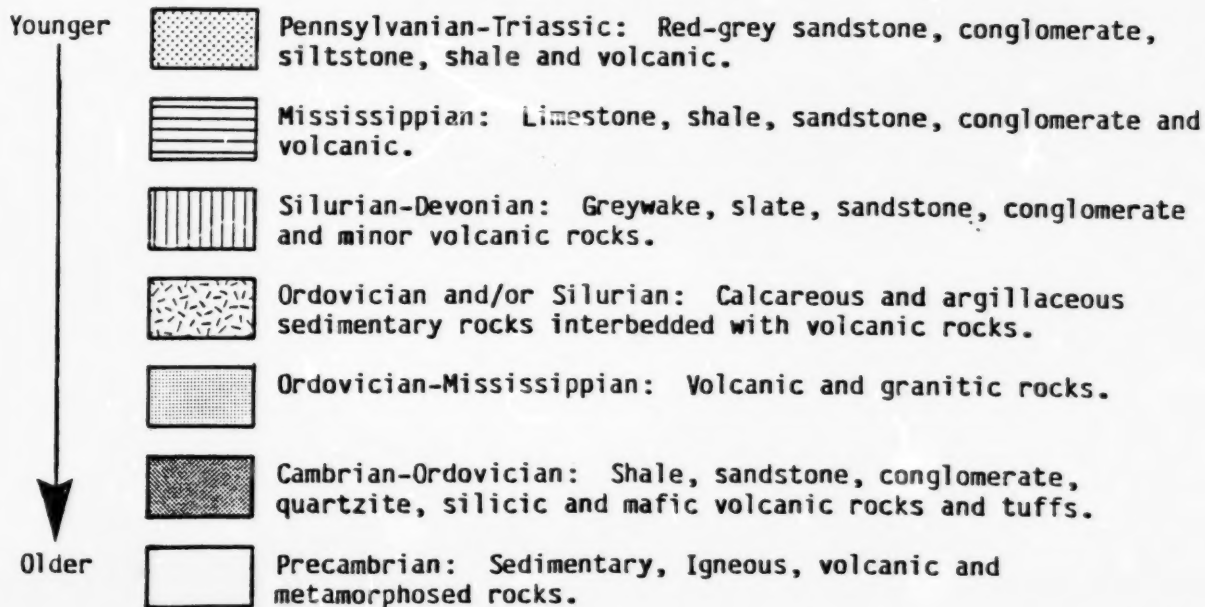
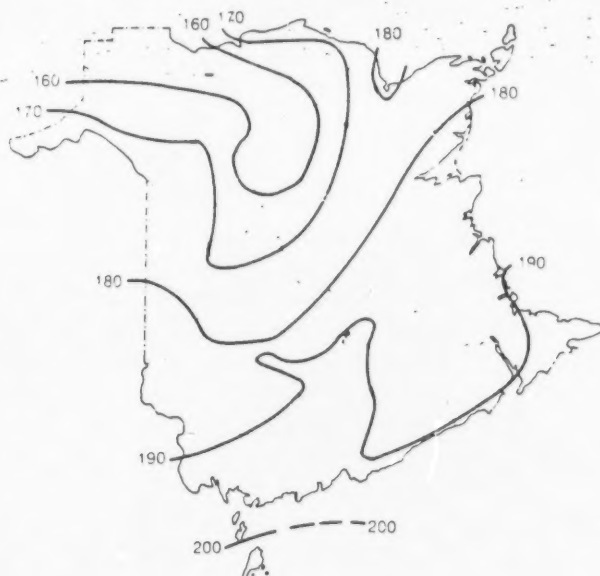
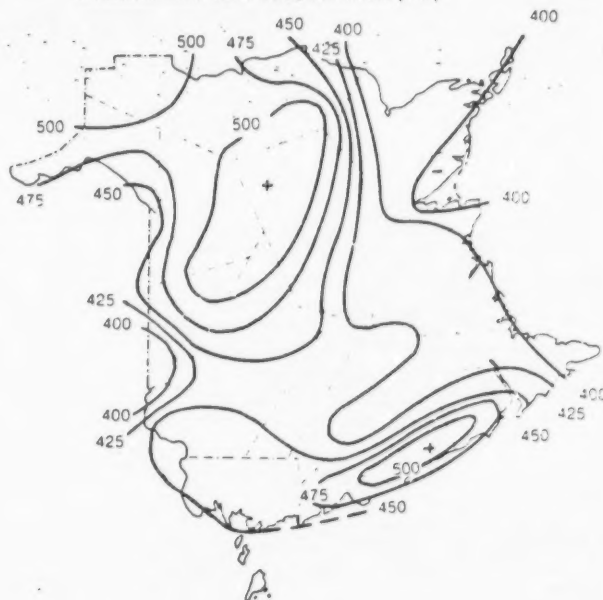


Figure 3. New Brunswick Bedrock Geology (Modified from Rampton et al. 1984)

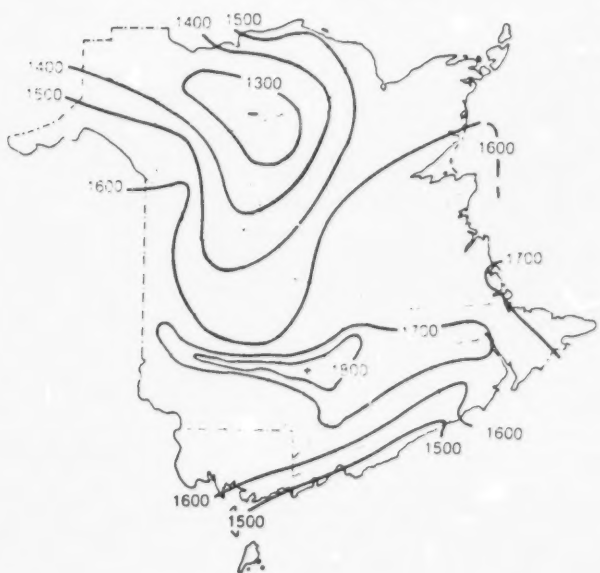
AVERAGE DURATION OF GROWING SEASON IN DAYS (above 5°C)



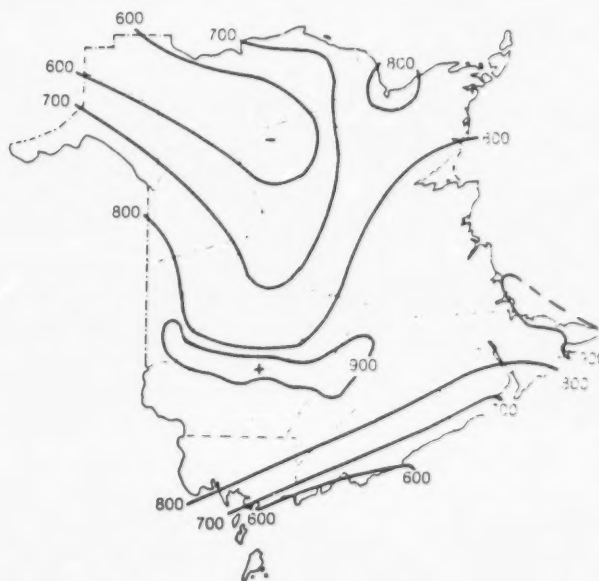
AVERAGE MAY-SEPT PRECIPITATION (mm)



AVERAGE ANNUAL DEGREE-DAYS ABOVE 5°C



AVERAGE MAY-SEPT DEGREE-DAYS ABOVE 10°C



N.B. CLIMATE

Figure 4.

REFERENCES

5. N.B. Soil Capability Classification for Agriculture, Agricultural Land Planning Section, New Brunswick Department of Agriculture and Rural Development. May 25, 1977.
6. Statistics Canada, 1981 Census.

ACKNOWLEDGEMENTS

We would like to thank those who have given us many helpful suggestions. We want most especially to acknowledge Mr. Randy Buchanan for compiling the statistics; Mr. George Read for the climate information and Mr. Doug Stiles for the statistical data.